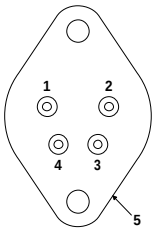
查询IP1R07供应商

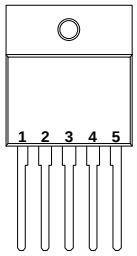
SEME LAB

IP1R07A
IP3R07A
IP1R07
IP3R07



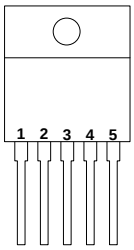
Pin 1 – V_P
Pin 2 – V_C
Pin 3 – N/C
Pin 4 – ADJ.
Case – V_O

K Package – TO–3



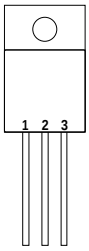
Pin 1 – V_C
Pin 2 – N/C
Pin 3 – V_O
Pin 4 – V_P
Pin 5 – ADJ.

V Package – TO–218



Pin 1 – V_C
Pin 2 – N/C
Pin 3 – V_O
Pin 4 – V_P
Case – ADJ.

T Package – TO–220



Pin 1 – V_C
Pin 2 – V_P
Pin 3 – ADJ.
Case – V_O

G Package – TO–257

3 AMP LOW DROPOUT POSITIVE ADJUSTABLE VOLTAGE REGULATOR

FEATURES

- **1% OUTPUT VOLTAGE TOLERANCE (–A VERSIONS)**
- **0.3% LOAD REGULATION**
- **0.01% / V LINE REGULATION**
- **0.8V DROPOUT VOLTAGE AT 3A**
- **COMPLETE SERIES OF PROTECTIONS:**
  - **CURRENT LIMITING**
  - **THERMAL SHUTDOWN**
  - **SOA CONTROL**

Description

The IP3R07A series of low dropout adjustable voltage regulators are capable of supplying 3A of output current with an input-to-output voltage of just 0.8V. In applications where high efficiency is necessary it is now possible to obtain a low cost, single chip solution. These regulators are exceptionally easy to use, requiring only two external resistors to set the output voltage.

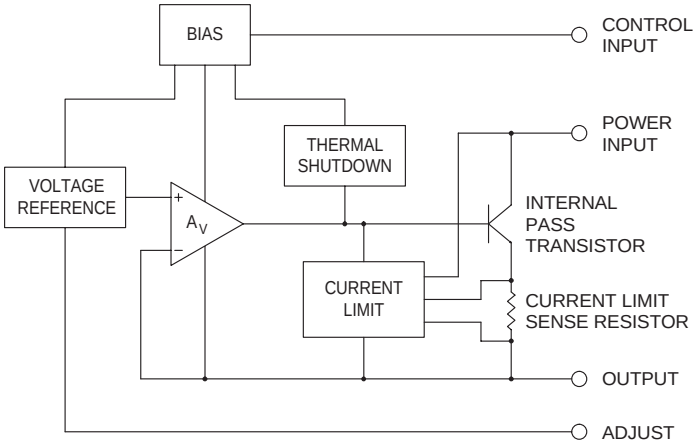
The IP3R07A exhibits an initial ±1% output voltage tolerance, and over all operating conditions the reference voltage is guaranteed not to vary more than ±2%. These devices include internal current limiting, thermal overload protection, and power device safe operating area compensation.

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

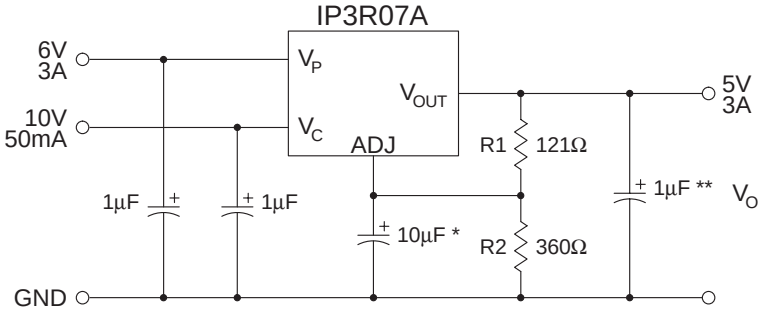
	Control Input to Output Voltage	35V
	Power Input to Output Voltage	15V
P_D	Power Dissipation	Internally limited
T_J	Operating Junction Temperature Range	See Order Information Table
T_{STG}	Storage Temperature	–65 to +150°C
T_L	Lead Temperature (Soldering, 10 sec.)	+300°C

IP1R07A
IP3R07A
IP1R07
IP3R07

BLOCK DIAGRAM



TYPICAL APPLICATION



* Improves Ripple Rejection.
** Improves Transient Response.

NOTE: $V_O = 1.25V\left(1 + \frac{R2}{R1}\right)$

Order Information

Part Number	K–Pack (TO–3)	G–Pack (TO–257)	T–Pack (TO–220)	V–Pack (TO–218)	Temp. Range	**Note:**
IP1R07A	✔	✔			-55 to +150°C	To order, add the package identifier to the part number.
IP1R07	✔	✔			"	
IP3R07A	✔		✔	✔	0 to 125°C	eg. IP1R07AK
IP3R07	✔		✔	✔	"	

SEME LAB

IP1R07A
IP3R07A
IP1R07
IP3R07

Parameter		Test Conditions [2]		IP1R07A IP3R07A Min.	IP1R07A IP3R07A Typ.	IP1R07A IP3R07A Max.	IP1R07 IP3R07 Min.	IP1R07 IP3R07 Typ.	IP1R07 IP3R07 Max.	Units
V_{REF}	Reference Voltage	I_O = 10mA		1.238	1.250	1.262				V
		I_O = 10mA to 3A $V_C - V_O$ = 3V to 35V $V_P - V_O$ = 1.5V to 7V P ≤ 20W	T_J = Over Temp. Range [1]	1.225	1.250	1.270	1.20	1.25	1.30	V
$\frac{\Delta V_{OUT}}{\Delta I_{OUT}}$	Line Regulation [1]	$V_C - V_O$ = 3V to 35V			0.005	0.010		0.005	0.030	% / V
			T_J = Over Temp. Range [1]		0.020	0.050		0.020	0.070	
$\frac{\Delta V_{OUT}}{\Delta I_{OUT}}$	Load Regulation [1]	I_O = 10mA to 3A			0.10	0.30		0.10	0.50	%
			T_J = Over Temp. Range [1]		0.30	1.0		0.30	1.5	
	Thermal Regulation	t_p = 20ms			0.002	0.010		0.002	0.030	%/W
	Ripple Rejection	V_O = 10V f = 120Hz	C_{ADJ} = 0		65			65		dB
			C_{ADJ} = 10µF T_J = Over Temp. Range [1]	66	86		66	86		dB
	Dropout Voltage (Power Input)	ΔV_O = 50mV			0.8	1.0		0.8	1.0	V
I_{ADJ}	Adjust Pin Current	T_J = Over Temp. Range [1]			50	100		50	100	µA
ΔI_{ADJ}	Adjust Pin Current Change	I_O = 10mA to 3A $V_P - V_O$ = 1.5V to 7V $V_C - V_O$ = 3V to 35V T_J = Over Temp. Range [1]			0.2	5		0.2	5	µA
I_{MIN}	Minimum Load Current	$V_C - V_O$ = 35V T_J = Over Temp. Range [1]			3.5	5		3.5	10	mA
I_{CL}	Current Limit	$V_P - V_O$ ≤ 7V T_J = Over Temp. Range [1]		3	4.5		3	4.5		A
$R_{\theta JC}$	Thermal Resistance Junction to Case	K Package	Power Transistor		1.2			1.2		°C/W
		V Package	Control Circuitry		0.5			0.5		
		T Package	Power Transistor		2.3			2.3		
		G Package	Control Circuitry		0.7			0.7		

Notes

1) Applies over full temperature range :–
   T_J = –55 to +150°C for IP1R07A / IP1R07
   T_J = 0 to +125°C for IP3R07A / IP3R07
   All other specifications apply at T_J = 25°C unless otherwise stated.

2) Test conditions unless otherwise stated :–
   $V_C - V_O$ = 5V , $V_P - V_O$ = 3V , I_{OUT} = 3A.
   Although Power Dissipation is internally limited, these specifications apply for Power Dissipation up to 50W.

3) Load and Line regulation are electrically independent and are measured using pulse techniques at low duty cycle in order to maintain constant junction temperature. To determine the effects on the output voltage due to device heating, refer to thermal regulation specification.